

**Mechanism for assessment and recovery of compensation due to illegal Sand Mining..**

**Government of Maharashtra  
Environment & Climate change Department  
Government Resolution No. NGT-2021/C.R. 07/TC-3  
New Administrative Building, 15 floor,  
Hutatma Rajguru Chowk,  
Madam Kama Marg,  
Mantralaya, Mumbai- 400 032  
Date : - 01/12/2021.**

**Reference : -**

**Hon'ble National Green Tribunal Order dated 26.02.2021 in O.A. No. 360/2015 and Ors. in the matter of National Green Tribunal Bar Association Vs. Virendra Singh (State of Gujarat) & Others Central Pollution Control Board letter No. CPCB/IPC-II/NGT-OA (360/2015)/2021/2046 dated 11/06/2021**

**Introduction:-**

Sand mining operations, although necessary, also result in ecological stress to the riverine ecosystem. To ensure that this stress is to be kept at a minimum, sand mining needs to be effectively regulated. Unregulated sand mining has been a challenge to the regulatory authorities.

The Hon'ble National Green Tribunal, in its recent judgment has identified destruction of riverine vegetation, riverbank, agriculture field erosion, pollution of water sources, damage to the ecosystem, deepening of water table, impact on animal breeding sites, negative impact on revenue and economics by reduction in tourism, agriculture production etc. as threat to the riverine ecosystem.

In the light of directions passed in the various judgments of the Hon'ble Supreme Court, and Hon'ble National Green Tribunal, the MoEF&CC issued Sustainable Sand Mining and Management Guidelines, 2016(SSMG-2016) under the provisions of the Environment (Protection) Act, 1986 on 15.01.2016.

Further in the light of the September 2016 report of the High-powered committee (constituted by the Tribunal), headed by the Secretary, MoEF&CC, the MoEF&CC issued Enforcement and Monitoring Guidelines for Sand Mining (EMGSM-2020) on 27.01.2020.

The Hon'ble National Green Tribunal (NGT) (Principal Bench), New Delhi reviewed the issue of illegal sand mining in the country, its impacts on various attributes on environment and passed an order with methodology to be adopted for ecological restoration due to illegal sand mining.

Accordingly, Hon'ble NGT passed an order in O.A no 306/2015 vide dated 26.02.2021, mentioning that ...

*“..in the light of discussion in para 12 above, having regard to the totality of the situation, **we accept the report of the CPCB and direct that the scale of compensation calculated with reference to approach II be adopted by all the States/UT's..**”*

*CPCB vide letter no CPCB/IPC\_II/NGT-OA(360/2015)/ 2021/2046, dated 11<sup>th</sup> June 2021 issued directions under section 5 of the Environment (Protection) Act, 1986 regarding development of mechanism for assessment and recovery of compensation as per Hon'ble NGT order dated 26.02.2021 in O.A no 360/2015 mentioning that State to evolve an appropriate Mechanism for assessment and recovery of compensation in all districts of the state and for utilization of the recovered compensation for restoration of environment by preparing an appropriate action plan.*

The Hon'ble National Green Tribunal in their order dated 26<sup>th</sup> February 2021 also directed that, *“the States/UT's to strictly follow the SSGM-2016 read with EMGSM-2020 reinforced by mechanism for preparation of District Survey Reports, Environmental management Plans, replenishment studies, mine closure plans grant of EC etc.”*

In accordance with the directions issued by the Hon'ble National Green tribunal, Central Pollution Control Board regarding illegal sand mining the Government of Maharashtra was in process of formulation of Mechanism for assessment and recovery of compensation due to illegal Sand Mining. In view of the above Government has decided to issue the Government Resolution in this regard as follows.

## **Effective control on illegal Sand Mining :-**

### **2.1. Environment Clearance (EC):**

- a) The environment clearance (EC) is a process through which SEIAA grants the permission, to any particular area for any particular quantity of sand to be excavated as per EIA notification 2006, as amended from time to time.
- b) **The District Collector shall ensure compliance of SSGM-2016 read with EMGSM-2020 guidelines before approving the District Survey Report. (para 13(iii) of the order of the Hon'ble National Green Tribunal dated 26.02.2021 in the matter OA No.360/2015)**
- c) Upon due submission made by the District Collector on the Parivesh portal of MoEF&CC, the proposal for granting environment clearance is first heard by State Expert Appraisal Committee (SEAC-1) whereupon if found in accordance with the various guidelines SEAC-1 recommends the proposal to the State Environment Impact Assessment Authority (SEIAA).
- d) SEIAA, grants EC to the said proposal, if found in order, subject to strict observance of a set of stipulations so as to ensure that the ecological stress to the riverine ecosystem is kept at a minimum.

### **2.2. Duties of District Collector:**

- a) Some of the important stipulations which are to be ensured by District Collector personally are:
  - i. To ensure that central 3/4<sup>th</sup> part of river on map where there is a deposition of sand and remaining 1/4<sup>th</sup> area needs to be kept as no mining zone for the protection of the bank.
  - ii. To ensure that no mining activity is carried out below the depth as approved by the Competent Authority.
  - iii. To ensure that, the distance of mining activity area from the river bank shall be 1/4<sup>th</sup> of the river bed width and should not be less than 7.5 meters.
  - iv. To ensure that, sand shall not be extracted up to a distance of 1 km from bridges and highways on both sides, or five times (5x) of the

span (x) of bridge, public civil structure (including water intake point) on upstream side and ten times (10x) the span of such bridge on downstream side, subjected to a minimum of 250 meters on the upstream and 500 meters on the downstream side.

- v. To ensure that sand mining shall be carried out by manual method only. No mechanical/electrical/power driven devices shall be used for sand mining purpose.
  - vi. To ensure no stream is diverted due to proposed sand mining activity.
  - vii. To ensure that, no heavy vehicles like truck, dumper etc. should ply in the river bed.
  - viii. To ensure that, there is no damage to any fauna and its nesting close to the sand mining if any.
  - ix. The sand transportation shall be carried out through the covered vehicles only and the vehicles carrying the mineral shall not be overloaded.
- b) In order to ensure strict compliance with the aforesaid and other conditions specified in the EC, the District Collector to develop a robust mechanism including use modern technological means such as Light Detection and Ranging (LiDAR / LADAR) etc. for monitoring systems.

### **2.3 Procedure to report illegal sand mining and study of ecological damage and restoration:**

- a) A District Level Task Force (DLTF) Committee shall be Constituted under the Chairmanship of District Collector with Superintendents of Police, District Forest Officer, District transport officer, Regional officer- MPCB, Senior Officer of Irrigation Department, District Mining Officer with one/two independent member nominated by the Collector concerned. The independent member shall be retired government official /teacher or ex-serviceman or ex-judiciary member as specified by Hon'ble NGT.
- b) The DLTF shall keep regular watch over the mining activities and movement of minerals in the District. The DLTF shall have its regular monthly meeting to reconcile the information from the mining activity,

and other observations made during the month and take appropriate corrective and remedial action, which may include a recommendation for revoking mining lease or Environmental Clearance. The recommendation may also include action under the Environment Protection Act, 1986 as specified by Hon'ble NGT.

- c) In case of observance of illegal sand mining or violations of the EC conditions, the District Collector shall initiate following actions immediately:
  - i. The District Collector shall ensure that the site is immediately closed.
  - ii. The sand mining lease shall be immediately suspended by the District Administration.
  - iii. Hon'ble NGT expects District Collectors to initiate appropriate legal actions against the defaulter under Environment Protection Act, 1986 and other applicable acts and rules.
  - iv. The compensation for ecological damage and restoration shall be calculated as per methodology prescribed in 2.8 and to ensure that the same is deposited in the separate account of environment department.
- d) After taking appropriate actions as per (iii) above, the District Level Committee constituted under Chairmanship of District Collector, shall forward the report to the State Government (as per Annexure 1).
- e) Upon receipt of the report from the District Collector, the State Government shall forward the same report to the expert organisation for estimation of the ecological damage and formulation of appropriate restoration plan.
- f) The expenses of expert organisation for estimating ecological damages and formulation of appropriate restoration plan shall be borne by concerned District Administration.
- g) The expert organisation shall submit the detailed report on ecological/ environmental damages and restoration plan along with budgetary estimates to the State Government with a copy to District Collector. The

expert organisation shall submit their report within 60 days to the Environment Department in the State Government.

- h) The Principal Secretary, Environment and Climate Change, shall release the same amount to District Collector for carrying out ecological restoration, as per recommendations of the expert organisation.
- i) The District Collector shall comply with the recommendations and submit compliance report to the Principal Secretary, Environment and Climate Change, on monthly basis.
- j) The District Collector shall submit a monthly report on or before 7<sup>th</sup> day of each month in the proforma attached as Annexure 1.

#### **2.4. Illegal Sand Mining Compensation (reference para 25 of the Hon'ble NGT Order dated 26.02.2021):**

- a) It is proposed to appoint a reputed Government organisation like NEERI etc., for defining activities contributing to ecological restoration and preparation of appropriate ecological restoration plan.
- b) The compensation shall be deposited in a separate bank account and utilised for restoration of environment by preparing appropriate action plan under the guidance of Environment Secretary with the assistance of individuals/ institutions.
- c) As specified in the NGT order, these compensation funds shall be reserved for the purpose of ecological/ environmental restoration in the identified affected area only.

#### **2.5. Awareness on adverse impacts of illegal sand mining:**

- a) The District Administration shall educate public including minors on the adverse impacts of illegal sand mining through media such as local cable network, national television, radio and national newspaper, daily news, etc.

## **2.6. Review of the Enforcement Mechanism (reference para 28, sub para 2 of Hon'ble NGT Order dated 26.02.2021):**

- a) Enforcement mechanism shall be reviewed by the Chief Secretary once in three Months.
- b) Periodic inspection should be conducted by a five-members Committee, headed and coordinated by the SEIAA comprising Central Pollution Control Board (CPCB), Maharashtra State Pollution Control Board (MPCB) and two expert members of SEAC dealing with the subject.
- c) Such inspections must be conducted at least thrice for each lease i.e. after expiry of 25% the lease period, then after 50% of the period and finally six months before expiry of the lease period for midway correction and assessment of damage, if any.
- d) The inspection reports be acted upon and placed on website of the SEIAA
- e) State should publish their annual reports on the subject and such annual reports may be furnished to MoEF&CC by 30<sup>th</sup> April every year giving status till 31<sup>st</sup> March of the respective year.

## **2.7. Methodology for Quantification of fine (calculation of compensation Amount):**

With focus on ecological restoration, the fine for incidents involving illegal sand mining needs to represent the costs to be incurred to restore the ecological damage caused due to the illegal sand mining activity. Hon'ble NGT has defined following approach for estimating the amount of fine/ compensation to be collected by District Collector:

- a) In case of calculating the Ecological cost, a simplified Net Present Value (NPV) shall be computed.
- b) In the context of the assessment of ecological damages arising from sand mining, the NPV is thus considered to be the present value of the current and future stream of net costs of such activity.
- c) The rationale lies in recognising that there may be negative externalities or ecological damages that result from excessive mining which manifests

itself in a loss of the ecosystem services of rivers, and creates a loss of well-being for both current and future generations.

- d) The extent of damage and the scope for restoration will vary from site to site and will depend on a variety of biophysical and man-made characteristics.

3. This Government resolution of Maharashtra Government is available at the website [www.maharashtra.gov.in](http://www.maharashtra.gov.in). Reference no. for this is 202112021716324204. This order has been signed digitally.

By order and in the name of the Governor of Maharashtra.

**( Manisha Patankar – Mahaishkar )**  
**Principal Secretary & Member Secretary SEIAA**  
**Department of Environment and Climate Change**  
**Government of Maharashtra**

**Copy To :-**

1. Principal Secretary to Hon'ble Governor of Maharashtra.
2. Principal Secretary to Hon'ble Chief Minister, Government of Maharashtra.
3. Hon'ble Principal Secretary, Ministry of Environment, Forest & Climate Change, New Delhi.
4. Secretary to Hon'ble Deputy Chief Minister, Government of Maharashtra.
5. Hon'ble All Divisional Commissioners, State of Maharashtra
6. Hon'ble Member Secretary, Central Pollution Control Board.
7. Hon'ble Member Secretary, Maharashtra Pollution Control Board.
8. Hon'ble All Collectors, State of Maharashtra
9. Private Secretary to Hon'ble Minister, Environment and Climate Change Department, Government of Maharashtra.
10. Private Secretary to Hon'ble Minister of State, Environment and Climate Change Department, Government of Maharashtra.
11. Secretary to all Hon'ble Ministers / Hon'ble Ministers of State
12. PA to Chief Secretary, Government of Maharashtra.
13. P.A. to Principal Secretary, Environment and Climate Change Department, Government of Maharashtra.
14. The Environment & Climate Change Department (T.C.3) Select File.



## Annexure - 1

### Monthly Report on Sand Mining

- 1) Name of the District \_\_\_\_\_
- 2) This is to certify that there is no illegal sand mining in the month of \_\_\_\_\_. ☐ (please tick if applicable)
- 3) There are illegal cases of mining found in the month of \_\_\_\_\_. ☐ (please tick if applicable).

Sr. No.	Lease holder name	Detailed Lease area address	Geographical demarcation of lease area (Latitude/ Longitude)	Whether EC granted for lease area. If yes, please mention EC Number	Quantity of sand mining granted as per EC (in Brass/ month)	Quantity of sand extracted during the month	Any deviation in sand quantity extraction against approved in EC	Compensation value (NPV) of Illegal Sand Mining charged (in Rupees)	Whether compensation fund is deposited in the bank account (Yes/ No)

If yes, please attach detailed report including panchnama copy.

\_\_\_\_\_  
Signature of District Mining Officer

\_\_\_\_\_  
Signature of District Collector

## Annexure - 2

### Approach for calculating NPV at present as specified by Hon'ble NGT

- Calculation of Direct Compensation based on the market value of extraction, adjusted for ecological damages
- Calculation of NPV

<b>Step 1 - Direct Compensation based on the market value of extraction, adjusted for ecological damages</b>				
<b>Permitted Quantity (in MT or m3)</b>	<b>Total Extraction (in MT or m3)</b>	<b>Excess Extraction (in MT or m3)</b>	<b>Exceedance in Extraction **EF=(100*Z/X)%</b>	<b>Compensation Charge (in Rs.)</b> [Exceedance Factor (EF), Risk Factor (RF), Deterrence Factor (DF)]
X	Y	Z=Y-X	Z/X	<b>D * (1+RF+DF)</b> Where D = Z x Market Value of the material per MT or m3 RF = 0.25, 0.50, 0.75, 1.00 DF = 0.3 if Z/X = 0.11 to 0.40, DF = 0.6 if Z/X = 0.41 to 0.70, DF = 1 if Z/X >= 0.71

<b>Step 2</b>
<b>NPV = PV-D</b>
<p>Where,</p> $PV = \sum_{t=1}^5 [(D + RT)/(1 + r)^t]$ <p>Market Value of Illegally Mined Material (D) = Z * Market value of illegal extraction</p> <p>Annual Value of Foregone Ecological Value: D*RF = D+RT</p> <p>RF is the risk factor</p> <p>i is discount rate which ranges from 8-5%</p> <p>Since NPV is calculated for 5 years, time period =5 years</p>

<b>Risk Level</b>	<b>RF Value</b>	<b>Criteria for determining Risk Level</b>
<b>Risk Level Mild</b>	RF=0.25	EF lies between 1-12%
<b>Risk Level Moderate</b>	RF=0.5	EF lies between 13-25%
<b>Risk Level Significant</b>	RF=0.75	EF lies between 26-50%
<b>Risk Level Severe</b>	RF=1	EF lies between 51-100%

**Note –**

- For eco-sensitive zones and polluted stretches of the river, the risk level will be severe translating to RF=1.
- If EF lies between 1-12%, the Exceedance factor shall be consider as 12% for further calculation of NPV.

Discount Rate (i)	Criteria for determining Discount Rate
i=5	RF = 1
i=6	RF = 0.75
i=7	RF = 0.5
i=8	RF = 0.25

Department of Environment and Climate Change will conduct a masterclass to explain the methodology to estimate the compensation amount.

**Example showing the NPV approach –**

Permitted Quantity (in MT or m3)	Total Extraction (in MT or m3)	Excess Extraction (in MT or m3)	Exceedance in Extraction	Risk Factor	Market Value of illegal extraction	D+RT	Discount Rate
X	Y	Z=Y-X	EF=(100*Z/X)%	RF	D=Z * Market Value of the material per MT or m3	D*RF	i
25,000 m3	50,000 m3	25,000 m3	100%	1	10,000,000	10,000,000	5%

- $D = 25000 \times 400 = 10,000,000$ /Value of the material as Rs. 400/- per m3
- $D+RT = D*RF = 10,000,000 \times 1 = 10,000,000$
- RF Calculation – Risk Level Severe as EF=100%, RF=1
- i = 5 since RF = 1
- r=0.05
- t = 5
- $$PV = \sum \left[ \frac{10,000,000}{(1+0.05)^1} + \frac{10,000,000}{(1+0.05)^2} + \frac{10,000,000}{(1+0.05)^3} + \frac{10,000,000}{(1+0.05)^4} + \frac{10,000,000}{(1+0.05)^5} \right]$$

$$= \text{Rs. } 9,523,809 + \text{Rs. } 9,070,295 + \text{Rs. } 8,643,042 + \text{Rs. } 8,227,067 + \text{Rs. } 7,836,990$$

$$= \text{Rs. } 43,301,203$$
- NPV=PV-D= Rs. 43,301,203 – Rs. 10,000,000 = **Rs. 33,301,203**

.....